

Birds, Habitat, & People: Making it through the Deepwater Horizon Gulf Oil Spill

Activity Background

What happened?

Hundreds of oil wells have been drilled into the ground beneath the Gulf of Mexico. At each deep-water well, a pipe carries the oil from deep in the Gulf floor up to a platform that floats on the water's surface. Here the oil is collected and transported to the land to be refined.

On April 20, 2010 a new 5,000 foot oil well had just been drilled. The name of the drilling platform was the Deepwater Horizon. Suddenly, some natural gas and oil accidentally escaped from the well and gushed to the surface. The fuel exploded in a huge fireball directly beneath the drilling platform, killing 11 people and injuring 17. The damaged platform quickly sank and pulled the pipe leading from the well down with it. The broken pipe leaked for more than 85 days, spilling an estimated 200 million gallons of oil into the Gulf of Mexico.

Why are people worried about the spill?

The oil that was escaping from ocean floor was a dark, thick, sticky liquid with a strong odor. Much of the oil floated to the surface and spread, creating an oil slick that covered thousands of square miles. It coated everything it touched in a layer of sticky oil. Dispersants were used to help breakdown the oil, but many people were concerned that the dispersants were as toxic as the oil itself. The oil also polluted the water and air above it. The fumes were dangerous to breathe. Huge plumes of suspended oil were also spreading beneath the ocean surface, and no one is sure what kind of damage they may do to living things. The oil washed up onto beaches and infiltrated into coastal wetlands. This presented, and continues to present, a serious threat to all the plants and animals that live in the coastal environment.

What happens to animals that get covered in oil?

A drop of oil the size of a dime can be fatal to most birds. Birds get oil on their feathers when they dive into the water for food or when they land on the surface to rest. When they try to clean their feathers with their beaks, they accidentally swallow some of the oil. The oil also hurts their eyes and harms their lungs. People are capturing some of these birds and trying to clean them, but many of the oil-soaked birds still die. Non-lethal effects on birds include behavioral, neurological, digestive, and reproductive impairment.

Ocean animals, such as sea turtles and porpoises, also get oil on them when they come to the surface to breathe. Oil is harmful to their bodies in many ways, especially if they swallow it or breathe the fumes. Hundreds of sea turtles have died from the spill. Smaller creatures are not safe either. Countless larval (young) fish, shrimp, crabs, oysters, and hatchlings sea turtles have also been killed by the pollution.

Some animals that survive the original spill bioaccumulate the toxic substances found in the oil and may later die from poisoning or are rendered unable to breed. Some toxic chemicals in oil bioaccumulate because they are stable and do not breakdown quickly; water soluble compounds spread and are ingested and excreted by many organisms; and pollutant compounds soluble in fats may accumulate in the animal's stored fat tissue. Pollutants that can biomagnify enter the food chain and increase in concentration in animals as they move up the chain. The pesticide DDT is an example of a pollutant that is biomagnified in the food chain. A few decades ago, birds like the brown pelican had accumulated DDT in such high levels from eating contaminated fish that they were only able to lay thin-shelled eggs, which were crushed during incubation.

What happens when the oil reaches the coast?

The Mexican Gulf Coast is one of the most productive natural areas in the entire world, with millions of acres of marsh, swamp, forests, and barrier islands. Hundreds of species of birds and other wildlife feed and nest there, including some that are rare and endangered. Wetlands in the Gulf of Mexico serve as nurseries for many species of marine fish and invertebrates. The wetlands help protect the coastline from hurricanes and other tropical storms.

When oil enters a wetland, it covers almost everything it touches—the plants, the herbivorous animals, and their predators. When birds come to feed, they can get coated in oil or become poisoned by the oil-covered animals they consume. The oil soaks into the sand and suffocates and poisons clams and worms and other living things burrowing below the surface. When the oil-covered plants die wetlands frequently disappear due to erosion as plant roots no longer hold the soil in place.

Who's working on protecting wildlife and habitats from the Gulf spill?

There are thousands of people from federal, state, and local agencies and organizations working together to protect the Gulf Coast water, land, fish, and wildlife affected by the spill. For this activity, we are going to focus on the work being done at the U.S. Fish and Wildlife Service's Southeast Louisiana National Wildlife Refuge Complex. The Complex is made up of 8 separate national wildlife refuges. However, 2 of those refuges were the most impacted by the oil spill; Breton and Delta National Wildlife Refuges. In addition to refuge staff, many U.S. Fish and Wildlife Service employees came from other refuges and field and regional offices from all over the United States to help with recovery efforts. Some came for a few weeks while others stayed for months. The people at the refuge will continue working with other USFWS staff and other agencies to assess and monitor the Gulf spill impacts on wildlife and habitat, and assist in their recovery. Oil spill recovery work will be needed for years to come.

Who is the U.S. Fish and Wildlife Service?

The U.S. Fish and Wildlife Service is a federal agency within the Department of Interior whose mission is to work with others to conserve, protect, and enhance, fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The USFWS is responsible for implementing and enforcing some of our Nation's most important environmental laws, such as the Endangered Species Act, Migratory Bird Treaty Act, Marine Mammal Protection Act, North American Wetlands Conservation Act, and the Lacey Act. The USFWS fulfills these responsibilities by protecting and recovering federally endangered and threatened species; monitoring and managing migratory birds; restoring nationally significant fisheries; enforcing federal wildlife laws, conserving and restoring habitats such as wetlands, and distributing millions of dollars to states, territories, and tribes for fish and wildlife conservation projects. The Service also manages the National Wildlife Refuge System that consists of 560 National Wildlife Refuges covering over 150 million acres of land.

For more information about the Southeast Louisiana NWR Complex or the U.S. Fish and Wildlife Service see the overview factsheets included with this activity.

Sources:

National Wildlife Refuge Association. 2010. Impacts of Deepwater Horizon Oil Spill on Coastal National Wildlife Refuges. http://www.refugeassociation.org/new-pdf-files/NWRAgulfspill_factsheet.pdf

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